

Application No. 10/586,264
Amdt. Dated: Jan-12-2009
Reply to Office Action: Sept-12-2008

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Amendments to the Claims:

1. to 7. (Cancelled)

8. (Currently amended) A process for the preparation of a canola protein isolate having an increased proportion of 2S canola protein, which comprises:

- (a) providing an aqueous solution of 2S and 7S proteins consisting predominantly of 2S protein,
- (b) heat treating the aqueous solution to cause precipitation of 7S canola protein,
- (c) removing degraded 7S protein from the aqueous solution, and
- (d) recovering a canola protein isolate having a protein content of at least about 90 wt% (N x 6.25) [[d.b.]] dry basis, and having an increased proportion of 2S canola protein.

9. (Original) The process of claim 8 wherein said heat treatment step is effected under temperature and time conditions sufficient to degrade at least about 50 wt% of the 7S canola protein present in said aqueous solution.

10. (Original) The process of claim 9 wherein said heat treatment step degrades the 7S canola protein by at least 75% of 7S canola protein present in said aqueous solution.

11. (Original) The process of claim 8 wherein said heat treatment step is effected by heating the aqueous solution for about 5 to about 15 minutes at a temperature of about 75° to about 95°C.

12. (Original) The process of claim 8 wherein said aqueous solution of 2S and 7S canola proteins is concentrated supernatant from canola protein micelle formation and precipitation.

13. (Original) The process of claim 12 wherein said canola protein micelle formation is effected by:

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- (e) extracting canola oil seed meal at a temperature of at least about 5°C to cause solubilization of protein in said canola oil seed meal and to form an aqueous protein solution,
- (f) separating said aqueous protein solution from residual oil seed meal,
- (g) increasing the concentration of said aqueous protein solution to at least about 200 g/L while maintaining the ionic strength substantially constant by a selective membrane technique to provide a concentrated protein solution,
- (h) diluting said concentrated protein solution into chilled water having a temperature of below about 15°C to cause the formation of the protein micelles, and
- (i) separating supernatant from settled protein micellar mass.

14. (Original) The process of claim 13 wherein said supernatant is concentrated to a protein concentration of about 100 to about 400 g/L prior to said heat treatment.

15. (Original) The process of claim 14 wherein said supernatant is concentrated to a protein concentration of about 200 to about 300 g/L.

16. (Original) The process of claim 14 wherein said concentration step is effected by ultrafiltration using membrane having a molecular weight cut-off about 3,000 to about 100,000 daltons.

17. (Original) The process of claim 16 wherein the concentrated supernatant resulting from ultrafiltration is subjected to diafiltration prior to said heat treatment step.

18. (Original) The process of claim 17 wherein said diafiltration step is effected using from about 2 to about 20 volumes, preferably about 5 to about 10 volumes, of water using a membrane having a molecular weight cut-off of about 3,000 to about 100,000 daltons.

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19. (Currently amended) The process of claim 8 wherein said canola protein isolate has a protein content of at least about 100 wt% (N x 6.25) [[d.b.]] dry basis.

20. to 30. (Cancelled)